Insert the attached Sequence Listing in place of the Sequence Listing submitted with the Statement dated September 4, 1999.

**IN THE CLAIMS**

Amend the claims as follows.

Cancel claims 26, 28, 31, without prejudice.

5. (Five Times Amended) An isolated polypeptide comprising a sequence of no more than 700 consecutive amino acids of a type F botulinum toxin sequence, which comprises a sequence of amino acids selected from the group consisting of:

(a) amino acids 848-1278 of a type F botulinum toxin (SEQ ID NO: 1)

(b) amino acids 992-1135 of a type F botulinum toxin (SEQ ID NO: 3), and;

(c) amino acids 1136-1278 of a type F botulinum toxin (SEQ ID NO: 4).

H3

6. (Five Times Amended) An isolated polypeptide comprising a dimer of a polypeptide comprising no more than 700 consecutive amino acids of a type F botulinum toxin sequence, which comprises a sequence selected from the group consisting of:

(a) amino acids 848-1278 of a type F botulinum toxin (SEQ ID NO: 1)

(b) amino acids 848-991 of a type F botulinum toxin (SEQ ID NO: 2)

(c) amino acids 992-1135 of a type F botulinum toxin (SEQ ID NO: 3), and

(d) amino acids 1136-1278 of a type F botulinum toxin (SEQ ID NO: 4).

7. (Five Times Amended) A polypeptide composition comprising:

(1) an isolated polypeptide according to claim 5; and

H3 (2) an isolated polypeptide that facilitates or enhances purification polypeptide of the (1).

8. (Four Times Amended) An isolated fusion protein comprising a sequence of

H4 amino acids selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID and NO:4, fused to a polypeptide that facilitates or enhances purification.

9. (Three Times Amended) A fusion protein according to Claim 8 wherein said polypeptide that facilitates or enhances purification is a polypeptide that binds a chromatography column.

H5

10. (Three Times Amended) A fusion protein according to Claim 9 wherein said chromatography column is an affinity chromatography column.

11. (Twice Amended) A fusion protein according to Claim 8 which comprises

H6 SEQ ID NO:1 fused to a purification moiety.

12. (Four Times Amended) A vaccine comprising a pharmaceutically acceptable carrier and a polypeptide comprising no more than 700 consecutive amino acids of a type

H7 F botulinum toxin sequence, which comprises a sequence selected from the group consisting of:

(a) amino acids 848-1278 of a type F botulinum toxin (SEQ ID NO:1),

(b) amino acids 848-991 of a type F botulinum toxin (SEQ ID NO:2),

#7 (c) amino acids 992-1135 of a type F botulinum toxin (SEQ ID NO:3),

and

(d) amino acids 1136-1278 of a type F botulinum toxin (SEQ ID NO:4).

13. (Three Times Amended) A recombinant DNA encoding a polypeptide according to claim 5.

14. (Three Times Amended) A method of producing a polypeptide according to

#8 claim 8 comprising the steps of:

(a) expressing in a host cell a DNA encoding a fusion protein according to claim 8,

(b) obtaining from said host cell an extract comprising the fusion protein, and

(c) purifying the fusion protein using a chromatography column.

17. (Three Times Amended) A method of making a pharmaceutical composition comprising:

#9 (a) expressing in a host cell a DNA fragment encoding a fusion protein according to claim 8,

(b) obtaining from said host cell an extract comprising the fusion protein,

(c) purifying the fusion protein using (a) chromatography column,

#9 (d) incorporating the purified fusion protein into a pharmaceutical composition.

19. (Four Times Amended) A pharmaceutical composition comprising a fusion

#10 protein according to claim 8, and

a pharmaceutically acceptable carrier.

25. (Amended) A recombinant DNA encoding a fusion protein according to claim

#11 8.

30. (Three Times Amended) The fusion protein of claim 8 wherein (1) is at least

#12 one amino acid sequence selected from the group consisting of SEQ ID NO: 2, SEQ ID NO: 3, and SEQ ID NO: 4.

33. (Amended) A method of producing antibodies in a mammal against botulinum

#13 toxin, comprising administering to said mammal a composition of claim 19.

Add the following claims.

--34. (New) A method of vaccinating a mammal against a botulinum toxin, said method comprising administering to said mammal a polypeptide comprising no more

#14 than 700 consecutive amino acids of a type F botulinum toxin sequence, which includes a sequence selected from the group consisting of:

(a) amino acids 848-1278 of a type F botulinum toxin (SEQ ID NO:1)

(b) amino acids 848-991 of a type F botulinum toxin (SEQ ID NO:2)

(c) amino acids 992-1135 of a type F botulinum toxin (SEQ ID NO:3),

and;

(d) amino acids 1136-1278 of a type F botulinum toxin (SEQ ID NO:4).

35. (New) A method according to claim 34 wherein the said sequence is fused to a polypeptide that facilitates or enhances purification.

36. (New) A method according to claim 34 wherein said polypeptide comprises no more than 500 consecutive amino acids of a type F botulinum toxin sequence.

H14

37. (New) A method according to claim 34 wherein said polypeptide consists of a sequence of amino acids selected from the group consisting of:

(a) amino acids 848-1278 of a type F botulinum toxin (SEQ ID NO:1)

(b) amino acids 848-991 of a type F botulinum toxin (SEQ ID NO:2)

(c) amino acids 992-1135 of a type F botulinum toxin (SEQ ID NO:3),

and;

(d) amino acids 1136-1278 of a type F botulinum toxin (SEQ ID NO:4), which sequence is optionally fused to a polypeptide that facilitates or enhances purification.

38. (New) A method according to claim 37 wherein the polypeptide consists of SEQ ID NO:1.